

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. - 8. (Cancelled)

9. (Currently Amended) A method of performing a medical procedure using ~~[[a]] the magnet of claim 1~~ to project a magnetic field into a patient to control a magnetic medical element inside the patient, where the magnet comprises a plurality of permanent magnet segments, the magnetization direction of each permanent magnet segment varying in three dimensions with respect to each segment's assembled location so that the magnetization direction of each permanent magnet segment is in the direction that substantially optimizes the strength of the externally projected magnetic field at a selected point.

10. - 30. (Cancelled)

33. (Currently Amended) A permanent magnet in which the magnetization direction varies with location to optimize the magnetic field at an externally selected point in a selected direction, the magnet comprising a plurality of permanent magnet segments, the magnetization direction of each permanent magnet segment varying in three dimensions with respect to each segment's assembled location so that the magnetization direction of each permanent magnet segment is in the direction that substantially optimizes the magnetic field strength of the externally projecting at the selected point in the selected direction.

34. (Previously Presented) The permanent magnet according to claim 33 wherein at least a portion of the surface of the magnet conforms to a surface of constant contribution to the desired magnetic field at the selected location point.

35. (Previously Presented) The permanent magnet according to claim 34 wherein the direction of magnetization throughout each permanent magnet segment is constant.

36. (Previously Presented) The permanent magnet according to claim 35 wherein the direction of magnetization throughout each permanent magnet segment is

the direction which, at the center of mass of the segment, provides the maximum contribution to the desired property optimizing the field.

37. (Previously Presented) The permanent magnet according to claim 35 wherein the direction of magnetization throughout each permanent magnet segment is the direction which, at the effective magnet center, provides the maximum contribution to the desired property optimizing the field.

38. (Previously Presented) The permanent magnet according to claim 35 wherein the size and position of the permanent magnet segments is selected so that the difference in the direction of magnetization direction between adjacent magnet segments is less than about 45°.

39. (Previously Presented) The permanent magnet according to claim 38 wherein the size and position of the permanent magnet segments is selected so that the difference in the direction of magnetization direction between adjacent magnet segments is less than about 30°.

40. (Previously Presented) The permanent magnet according to claim 34 wherein the magnetization direction throughout each permanent magnet segment is not constant.

41. (Currently Amended) A permanent magnet in which the magnetization direction varies with location to optimize a the magnetic field at an externally selected point in a selected direction, the magnet comprising: a plurality of permanent magnet segments, the magnetization direction of each permanent magnet segment varying in two dimensions with respect to each segment's assembled location so that the magnetization direction of each permanent magnet segment is in the direction that substantially optimizes the strength of the externally projecting magnetic field at the selected point in the selected direction.

42. (Previously Presented) The permanent magnet according to claim 41 wherein at least a portion of the surface of the magnet conforms to a surface of constant contribution to the desired magnetic field at the selected location point.

43. (Previously Presented) The permanent magnet according to claim 41 wherein the direction of magnetization throughout each permanent magnet segment is constant.

44. (Previously Presented) The permanent magnet according to claim 43 wherein the direction of magnetization throughout each permanent magnet segment is the direction which, at the center of mass of the segment, provides the maximum contribution to the desired property optimizing the field.

45. (Previously Presented) The permanent magnet according to claim 43 wherein the direction of magnetization throughout each permanent magnet segment is the direction which, at the effective magnet center, provides the maximum contribution to the desired property optimizing the field.

46. (Previously Presented) The permanent magnet according to claim 43 wherein the size and position of the permanent magnet segments is selected so that the difference in the direction of magnetization direction between adjacent magnet segments is less than about 45°.

47. (Previously Presented) The permanent magnet according to claim 46 wherein the size and position of the permanent magnet segments is selected so that the difference in the direction of magnetization direction between adjacent magnet segments is less than about 30°.

48. (Previously Presented) The permanent magnet according to claim 41 wherein the magnetization direction throughout each permanent magnet segment is not constant.

49.-51. (Cancelled)